APPENDIX A: ACRONYMS AND GLOSSARY

A.1	ACRONYMS	1
A.2	GLOSSARYA-1	3

A.1 ACRONYMS

Note:

Multiple acronyms are sometimes shown for the same term where the different acronyms are used in the document. For example, the text of the document consistently uses "Mbits/s" for "Megabits per second", but the acronym "Mbps" is used in the titles of some standards.

AAC Advance Audio Coding AAL ATM Adaptation Layer

ABBET A Broad Based Environment for Test

ABOR Abort

ACC Architecture Coordination Council
ACP Allied Communication Publication

ACR-NEMA American College of Radiology - National Electrical Manufacturers Association

ACTD Advanced Concept Technology Demonstration
ADE Application Development Environment
AES Application Environment Specification

AES3 Audio Engineering Society 3

AF ATM Forum

AFMSS Air Force Mission Support System

AFP Adapter Function and Parametric Data Interface

AH Authentication Header

AITI Automated Interchange of Technical Information

ALE Automated Link Establishment
ALSP Aggregate Level Simulation Protocol
ANSI American National Standards Institute

AOR Area of Responsibility
API Application Program Interface
AR Airborne Reconnaissance

ARI ATS Research and Development Integrated Product Team
ARITA Airborne Reconnaissance Information Technical Architecture

ARL Airborne Reconnaissance Low ARP Address Resolution Protocol

ARTAWG Airborne Reconnaissance Technical Architecture Working Group

ASAS All-Source Analysis System
ASD Assistant Secretary of Defense

ASD C3I Assistant Secretary of Defense for Command, Control, Communications, and

Intelligence

ATA Army Technical Architecture

ATARS Advanced Tactical Air Reconnaissance System

ATD Advanced Technology Demonstration

ATE Automated Test Equipment

ATIS Alliance for Telecommunication Industry Solutions
ATLAS Abbreviated Test Language for All Systems

ATM Asynchronous Transfer Mode
ATPG Automatic Test Program Generator

ATS Automatic Test Systems
ATV Advanced Television Systems
AUTODIN Automatic Digital Network

AV Air Vehicle

AVI Audio-Video Interleaved AWE Avionics/Weapons/Electronics

BCD Binary Coded Decimal

BER Bit Error Rate

BGP Border Gateway Protocol

BIPM Bureau International des Poids et Mesures

bits/s Bits per second

BMDO Ballistic Missile Defense Organization

BOOTP Bootstrap Protocol
bps Bits Per Second
BRI Basic Rate Interface

BUFR Binary Universal Format for Representation

C/S/A CINCs/Services/Agencies C2 Command and Control

C2CDM Command and Control Core Data Model

C3I Command, Control, Communications, and Intelligence

C4I Command, Control, Communications, Computers, and Intelligence

C4ISR Command, Control, Communications, Computers, Intelligence, Surveillance, and

Reconnaissance

CAC Computer Asset Controller

CADRG Compressed Arc Digitized Raster Graphics

CAE Common Application Environment

CALS Continuous Acquisition and Life Cycle Support
CARS Contingency Airborne Reconnaissance System
CASE Computer Automated Software Engineering

CBC Cipher Block Chaining CBR Constant Bit Rate

CBS Commission for Basic Systems
CBW Chemical and Biological Weapons

CC Common Criteria for Information Technology Security Evaluation

CCB Change Control Board

CCITT International Telegraph & Telephone Consultative Committee (now ITU)

CDE Common Desktop Environment

CDENext Next Version of CDE
CDL Common Data Link

CDMA Code Division Multiple Access
CD-ROM Compact Disk-Read Only Memory

CFCSE Center For Computer Systems Engineering

CFS Center for Standards
CG Commanding General
CGI Computer Graphics Interface
CGM Computer Graphics Metafile

CI Critical Interface
CIB Controlled Image Base

CIDE Communication Information Data Exchange CIGSS Common Imagery Ground/Surface System

CINC Commander In Chief

CIPSO Common Internet Protocol Security Options

CIS Combat Information System
CISA C4I Integration Support Activity

CJCSI Chairman of the Joint Chiefs of Staff Instruction
CJCSM Chairman of the Joint Chiefs of Staff Memorandum

CLI Call Level Interface
CM Configuration Management

CMA Collection Management Authority

CMIP Common Management Information Protocol
CMMS Conceptual Models of the Mission Space
CMST Collection Management Support Tools

CNR Combat Net Radio

COE Common Operating Environment

COM Common Object Model **CONUS** Continental United States

CORBA Common Object Request Broker Architecture
COSE Common Open Software Environment

COTS Commercial Off-the-Shelf
CRM Computer Resources Management

CRMA Collection Requirement Management Application
CRMS Collection Requirement Management System
CSMA/CD Carrier Sense Multiple Access / Collision Detection

CSP Common Security Protocol

CTCPEC Canadian Trusted Computer Product Evaluation Criteria

CTRS Conventional Terrestrial Reference System
CXE Computer to External Environments Interface

DAA Designated Approving Authority
DAMA Demand Assigned Multiple Access

DAP Directory Access Protocol

DARO Defense Airborne Reconnaissance Office **DARP** Defense Airborne Reconnaissance Program

DARSC Defense Airborne Reconnaissance Steering Committee

DAT Digital Audio Tape

DBDB Digital Bathymetric Database
DBMS Data Base Management System

DCA Defense Communications Agency (now DISA)

DCAC Defense Communications Agency (now DISA) Circular

DCEDistributed Computing EnvironmentDCGSDistributed Common Ground SystemDCOMDistributed Component Object Mode

DCRSi Digital Cassette Recording System - Improved

DDDS Defense Data Dictionary System

DDM DoD Data Model

DDNS Dynamic Domain Name System
DDRS Defense Data Repository System

DEF Data Exchange Format
 DFC Diagnostic Flow Charts
 DGSA DoD Goal Security Architecture
 DHCP Dynamic Host Configuration Protocol

DIA Defense Intelligence Agency

DIA Diagnostic processing interface protocol (ATS Sub-domain)

DIGEST Digital Geographic Information Exchange Standard

DII Defense Information Infrastructure
DIS Distributed Interactive Simulation
DIS Draft International Standard

DISA Defense Information Systems Agency (formerly Defense Communication Agency

(DCA))

DISN Defense Information System Network

DLA Defense Logistics Agency

DLWG Data Link Working Group
DMS Defense Message System

DMSO Defense Modeling and Simulation Office

DMTD Digital Message Transfer Device

DNC Digital Nautical Chart
DNS Domain Name System
DoD Department of Defense

DoDD DoD Directive

DoDIIS DoD Intelligence Information Systems **DoDISS** DoD Index of Specifications and Standards

DoDSSP DoD Single Stock Point **DOI** Domain Of Interpretation

DPPDB Digital Point Positioning Data Base

DRV Instrument Driver Application Programming Interface

DSIC Defense Standards Improvement Council

DSN Defense Switched Network **DSP** Defense Standardization Program

DSS1Digital Subscriber Signaling System No 1DSSSDirect Sequence Spread SpectrumDTEDDigital Terrain Elevation DataDTFDigital Test Data FormatsDTOPDigital Topographic Data

DTSR Digital Temporary Storage Recorder

DVI Digital Video Interactive

E/O Electro-optical

EAO Executive Agent Office
EEI External Environment Interface
EHF Extremely High Frequency

EHF Extra High Frequency (AR Sub-Domain)
EIA Electronics Industries Association

E-MAIL Electronic Mail

ESP Encapsulating Security Payload

ETRAC US Army Enhanced Tactical Radar Correlator

F3 Form, Fit, and Function
FAQ Frequently Asked Question
FDDI Fiber Distributed Data Interface
FDMA Frequency Division Multiple Access
FED-STD Federal Telecommunication Standard
FIPS Federal Information Processing Standards

FOM Federation Object Model

FPLMTS Future Public Land Mobile Telecommunications Systems

FRM Frameworks Interface

FRM Functional Requirements Model (AR Sub-domain)

FTP File Transfer Protocol

FTR Federal Telecommunications Recommendation

GBS Global Broadcast Service

GCCS Global Command and Control System
GCSS Global Combat Support System
GIC Generic Instrument Class Interface
GIF Graphics Interchange Format

GIS Geographic Information System
GKS Graphical Kernel System
GOA Generic Open Architecture
GOTS Government Off-the-Shelf
GPS Global Positioning System

GRIB Gridded Binary

GSD Global Situation Display

GSM Global System for Mobile Communications

GSS Generic Security Service GUI Graphical User Interface

HCI Human-Computer Interface

HDBK Handbook

HDTV High Definition Television

HF High Frequency
HITL Human-in-the-Loop
HLA High Level Architecture

HMAC keyed-Hashing for Message Authentication

HST Host Computer Interface
HTML Hypertext Markup Language
HTTP Hypertext Transfer Protocol

HUMINT Human Intelligence

HyTime Hypermedia Time-based Structuring Language

I&RTS Integration and Runtime Specification

I/O Input/Output

IAB Internet Architecture Board

ICB Instrument Communication Bus Interface
ICCCM Inter-Client Communications Convention Manual

ICCCM Inter-Client Communications Convention Manual ICL Instrument Command Language Interface ICM Instrument Communications Manager Interface

ICMP Internet Control Message Protocol

IDEF0Integrated Definition for Function ModelingIDEF1XIntegrated Definition for Information Modeling

IDL Interface Definition Language
IDUP Independent Data Unit Protection

IECInternational Electrotechnical CommissionIEEEInstitute of Electrical and Electronic Engineers

IERInformation Exchange RequirementsIESGInternet Engineering Steering GroupIETFInternet Engineering Task Force

IF Intermediate Frequency
IFOG Interferometric Fiber Optic Gyro

IFP Instrument Function and Parametric Data Interface

IGES Initial Graphics Exchange Specification IGMP Internet Group Management Protocol

IIOP Internet Inter-Orb Protocol

ILMIInterim Local Management InterfaceIMAInteractive Multimedia AssociationIMETSIntegrated Meteorological System

IMINT Imagery Intelligence
INS Inertial Navigation System

IP Internet Protocol
IPA Image Product Archive

IPCPInternet Protocol Control ProtocolIPDSIntegrated Deployable Processing System

IPL Image Product LibraryIPv4 Internet Protocol Version 4

IPv6 Internet Protocol Next Generation Version 6

IR InfraRed

IRDS Information Resource Dictionary System

IS Information System

ISA Industry Standard Architecture

ISAKMP Internet Security Association and Key Management Protocol

ISB Intelligence Systems Board
ISDN Integrated Services Digital Network

ISO International Organization for Standardization

ISO/IEC International Organization for Standardization, International Electrotechnical

Commission

ISP International Standardized Profile

ISP ISDN Security Program

ISPT Intelligence Support Processing Tool
ISR Intelligence, Surveillance & Reconnaissance

ISS Intelligence Systems Secretariat

ITF Integrated Task Force

ITSEC European Information Technology Security Evaluation Criteria

ITSG Information Technology Standards Guidance

ITU International Telecommunications Union (formerly called CCITT)

ITU-T International Telecommunications Union - Telecommunications Standardization

Sector

JAMA Joint Airborne MASINT Architecture
JASA Joint Airborne SIGINT Architecture

JASASH JASA Standards Handbook JBS Joint Broadcast Service

JCMT Joint Collection Management Tool
JFIF JPEG File Interchange Format

JIEO Joint Interoperability & Engineering Organization

JII Joint Integration Interface
JPEG Joint Photographic Expert Group
JROC Joint Requirements Oversight Council

JSA Joint Systems Architecture
JTA Joint Technical Architecture

JTADG Joint Technical Architecture Development Group
JTAWG Joint Technical Architecture Working Group
JTDLMP Joint Tactical Data Link Management Plan
JTIDS Joint Tactical Information Distribution System

JV Joint Vision

JVM Java Virtual Machine

JWICS Joint Worldwide Intelligence Communications System

Kbits/s Kilobits per second **kbps** Kilobits Per Second

KCIOC Korean Combined Operational Intelligence Center

KHz Kilohertz

KMP Key Management Protocol

LAN Local Area Network
LASINT Laser Intelligence
LCP Link Control Protocol

LDAP Lightweight Directory Access Protocol **LD-CELP** Low Delay-Code Excited Linear Prediction

LDR Low Data Rate
LF Low Frequency
LOS Line-of-Sight

LPI Low Probability of Intercept LUNI LANE User Network Interface

LWD Littoral Warfare Data

LWR LASINT/Laser Warning Receivers

M&SModeling and SimulationMAGTFMarine Air Ground Task ForceMANMetropolitan-Area Network

MASINT Measurement and Signature Intelligence

MAU Medium-Access Unit
Mbits/s Megabits per second
Mbps Megabits per second

MC&G Mapping, Charting and Geodesy

MCCDC Marine Corps Combat Development Command

MDR Medium Data Rate
MHP Mobile Host Protocol

MHz Megahertz

MIBManagement Information BaseMIDBManagement Information Database

MIDS Multi-functional Information Distribution System
MIES US Army Modernized Imagery Exploitation System

MIL-HDBK Military Handbook

MILSATCOM Military Satellite Communications

MIL-STD Military Standard

MIPE Mobile Intelligence Processing Element

MISSI Multilevel Information Systems Security Initiative

MLPP Multi-Level Precedence and Preemption

MMF Multimedia Formats Interface MMP Modular Mission Payloads MOF Meta-Object Facility

MOSPF Multicast Open Shortest Path First
MPCS Mission Planning and Control Station
MPEG Motion Pictures Expert Group

MPOA Multiprotocol over ATM

MSIIRS Multispectral Imagery Interpretation Scale
MSMP Modeling and Simulation Master Plan

MSP Message Security Protocol MTA Message Transfer Agent

MTIMSP Moving Target Indicator Message Security Protocol

NAIC National Air Intelligence Center
NATO North Atlantic Treaty Organization
NCSC National Computer Security Center

NET Network Protocols Interface

NIIRS National Imagery Interpretation Rating Scale
NIMA National Imagery and Mapping Agency

NIPNET Non-secure IP Routing Network

NIST National Institute of Standards and Technology NITF National Imagery Transmission Format

NITFS National Imagery Transmission Format Standard

NIUF North American ISDN User's Forum NLSP Network Layer Security Protocol

NRIIRS National Radar Imagery Interpretation Scale

NRO National Reconnaissance Office NSA National Security Agency

NSM Network and Systems Management
NTIS National Technical Information Service

NTP Network Time Protocol

NTSC National Television Standards Committee
NTSDS National Target/Threat Signature Data System

ODBC Open Database Connectivity
ODMG Object Data Management Group
OLE Object Linking and Embedding
OMA Object Management Architecture
OMG Object Management Group

OODBMS Object-Oriented Database Management System

OOM Object-Oriented Methods
OOT Object Oriented Technology
OOTW Operations Other Than War

OS Operating System

OSD Office of the Secretary of Defense

OSD A&T Office of the Secretary of Defense for Acquisition and Technology

OSF Open Software Foundation
OSI Open Systems Interconnection
OSJTF Open Systems Joint Task Force
OSO Operational Support Office
OSPF Open Shortest Path First

PASV Passive

PCAT PC Access Tool

PCI Peripheral Computer Interface

PCMCIA Personal Computer Memory Card International Association

PCS Personal Communications Services

PDF Portable Document Format

PDU Protocol Data Units

PHIGS Programmers Hierarchical Interactive Graphics Systems
PICS Protocol Implementation Conformance Statement
PINES Pacific Air Forces Interim National Exploitation System

PM Program Manager

PNG Portable Network Graphics
PN-NI Private Network-Network Interface

POC Point of Contact

POSIX Portable Operating System Interface

PPP Point-to-Point Protocol
PPS Precise Position Service

PPS Pulse Per Second (AR Sub-domain)

PRI Primary Rate Interface
PSK Phase Shift Keying
PSM Persistent Stored Modules

PST Prestructured Technology

PSTN Public Switched Telephone Networks

QoS Quality of Service

RDA Remote Data Access

RDBMS Relational Database Management System

RF Radio Frequency
RFC Request for Comments

RFI Receiver Fixture Interface Alliance

RFP Requests for Proposals
RFX Receiver/Fixture Interface
RMON Remote Monitoring
RPC Remote Procedure Call
RPF Raster Product Format
RTI Run Time Infrastructure
RTS Run Time Services Interface

SA Systems Architecture

SAE Society of Automotive Engineers

SAMP Security Association Management Protocol

SAR Synthetic Aperture Radar SAR PH SAR Phase History SATCOM Satellite Communications

SCC Standards Coordinating Committee

SCPS Space Communications Protocol Standards

SDESupport Data ExtensionsSDFSimulation Data FormatSDNSecure Data NetworkSDNSSecure Data Network SystemSESynthetic Environments

SEDRIS Synthetic Environment Data Representation and Interchange Specification

SFP Switch Function and Parametric Data Interface
SGML Standard Generalized Markup Language

SHF Super High Frequency

SIDR Secure Intelligence Data Repository

SIF Standard Simulator Database Interchange Format

SIGINT Signal Intelligence

SILS Standard for Interoperable LAN Security

SIPRNET Secure IP Routing Network

S/MIME Secure/Multipurpose Internet Mail Extensions
SMPTE Society of Motion Picture and Television Engineers

SMTP Simple Mail Transfer Protocol

SNMP Simple Network Management Protocol

SOM Simulation Object Model
SONET Synchronous Optical Network
SOO Statement Of Objective
SOW Statements of Work
SQL Structured Query Language
SSL Secure Socket Layer

STANAG Standard NATO Agreement

STD Standard STOU Store Unique STS Synchronous Transport Signal
SUS Single UNIX Specification
SWM Switch Matrix Interface

TACO2 Tactical Communications Protocol 2
TADIL Tactical Digital Information Link

TAFIM Technical Architecture Framework for Information Management

TAMPS Tactical Aviation Mission Planning System
TASG Technical Architecture Steering Group

TAWDS Tactical Automated Weather Distribution System

TCP Transmission Control Protocol

TCSEC Trusted Computer Security Evaluation Criteria

TDDS TRAP Data Dissemination System

TDL Tactical Data Link

TDMA Time Division Multiple Access

TEG Marine Corps' Tactical Exploitation Group

TELNET Telecommunications Network **TFTP** Trivial File Transfer Protocol

TIA Telecommunications Industry Association
TIBS Tactical Information Broadcast System
TIDP Technical Interface Design Plan
TIS Technical Interface Specification

TMN Telecommunications Management Network

TOS Type-of-Service

TOS Test Program to Operating System Interface (ATS Sub-domain)

TP Transport Protocol

TP0 Transport Protocol Class 0

TPD Test Program Documentation Interface

TPI Test Program Instructions

TPS Test Program Set

TRAP Tactical Receive Equipment and Related Applications

TRC Technical Reference Code
TRD Test Requirements Document

TRIXS Tactical Reconnaissance Intelligence Exchange System

TRM Technical Reference Model

TRMWG Technical Reference Model Working Group
TSIG Trusted Systems Interoperability Group

TSIX(RE) Trusted Security Information Exchange for Restricted Environments

TSR Test Strategy Report

UAV Unmanned Aerial Vehicle

UCS Universal Multiple-Octet Coded Character Set

UDP User Datagram Protocol
UGS Unattended Ground Sensors
UHF Ultra High Frequency
UI User Interface

UML Unified Modeling Language
UMS Unattended MASINT Sensors

UNEST UNIX-based National Exercise Support Terminal

UNI User-Network Interface
URL Uniform Resource Locator
USAF United States Air Force

USD(A&T) Under Secretary of Defense for Acquisition and Technology USIGS United States Imagery and Geospatial Information System

USIPS US. Joint Service Image Processing System

USMC US. Marine Corps

USMTF United States Message Text Format

US. Naval Observatory
UTC Coordinated Universal Time

UTC(USNO) UTC as maintained at the U.S. Naval Observatory

UTR Unit Under Test Requirements Interface

UUT Unit Under Test
UVMap Urban Vector Map

VHF Very High Frequency VHS Vertical Helical Scan

VISA Virtual Instrument Standard Architecture

VISP Video Imagery Standards Profile VITC Vertical Interval Time Code

VITD Vector Product Interim Terrain Data

VLF Very Low Frequency

VMap Vector Map

VME Versa Modulo Europa
VMF Variable Message Format
VPF Vector Product Format

VPP VXIplug&play

VRML Virtual Reality Modeling Language

VSM Video Systems Matrix VTC Video Teleconferencing

VXIVMap AD VME Extensions for InstrumentationVMap Aeronautical Data

W3C World Wide Web Consortium WGS World Geodetic System

WMO World Meteorological Organization
WNDP Worldwide Numbering and Dialing Plan

WVS+ World Vector Shoreline Plus

WWW World Wide Web

XML eXtensible Markup Language

Y2K Year 2000

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A.2 GLOSSARY

Note:

Where two textual variants of the same term, e.g., "real time" and "real-time" occur in the document, both are shown.

Access Control

Process of limiting access to the resources of an IT product only to authorized users, programs, processes, systems, or other IT products.

Accreditation

The managerial authorization and approval granted to an ADP system or network to process sensitive data in an operational environment, made on the basis of a certification by designated technical personnel of the extent to which design and implementation of the system meet pre-specified technical requirements, e.g., TCSEC, for achieving adequate data security. Management can accredit a system to operate at a higher/lower level than the risk level recommended (e.g., by the Requirements Guideline) for the certification level of the system. If management accredits the system to operate at a higher level than is appropriate for the certification level, management is accepting the additional risk incurred.

Activity Model (IDEF0)

A graphic description of a system or subject that is developed for a specific purpose and from a selected viewpoint. A set of one or more IDEF0 diagrams that depict the functions of a system or subject area with graphics, text and glossary. (FIPS Pub 183, Integration Definition For Function Modeling (IDEF0), December 1993).

Aggregate Level Simulation Protocol (ALSP)

A family of simulation interface protocols and supporting infrastructure software that permit the integration of distinct simulations and war games. Combined, the interface protocols and software enable large-scale, distributed simulations and war games of different domains to interact at the combat object and event level. The most widely known example of an ALSP confederation is the Joint/Service Training Confederation (CBS, AWSIM, JECEWSI, RESA, MTWS, TACSIM, CSSTSS) that has provided the backbone to many large, distributed, simulation-supported exercises. Other examples of ALSP confederations include confederations of analytical models that have been formed to support U.S. Air Force, U.S. Army, and U.S. TRANSCOM studies. (DoD 5000.59-P, "Modeling and Simulation Master Plan," October 1995, authorized by DoD Directive 5000.59, January 4, 1994).

American National Standards Institute (ANSI)

The principal standards coordination body in the U.S. ANSI is a member of the ISO. (TAFIM, Version 3.0, Volume 4).

Application Platform

- 1. The collection of hardware and software components that provide the services used by support and mission-specific software applications. (TAFIM, Version 3.0, Volumes 1 and 3)
- 2. The application platform is defined as the set of resources that support the services on which application software will execute. It provides services at its interfaces that, as much as possible, make the implementation-specific characteristics of the platform transparent to the application software. (TAFIM, Version 3.0, Volume 2).

Application Platform Entity

The application platform is defined as the set of resources that support the services on which application software will execute. It provides services at its interfaces that, as much as possible, make the implementation-specific characteristics of the platform transparent to the application software. (TAFIM, Version 3.0, Volume 2).

Application Program Interface (API)

- 1. The interface, or set of functions, between the application software and the application platform. (NIST Special Publication 500-230; TAFIM, Version 3.0, Volumes 1 and 3)
- 2. The means by which an application designer enters and retrieves information. (TAFIM, Version 3.0, Volumes 1 and 3).

Application Software Entity

Mission-area and support applications. A common set of support applications forms the basis for the development of mission-area applications. Mission-area applications should be designed and developed to access this set of common support applications. Applications access the Application Platform via a standard set of APIs. (TAFIM, Version 3.0, Volume 2).

Architecture

Architecture has various meanings, depending upon its contextual usage. (1) The structure of components, their interrelationships, and the principles and guidelines governing their design and evolution over time. (2) Organizational structure of a system or component. (IEEE STD 610.12-1900; TAFIM, Version 3.0, Volumes 1 and 3).

or

An architecture is a composition of (1) components (including humans) with their functionality defined (Technical), (2) requirements that have been configured to achieve a prescribed purpose or mission (Operational), and (3) their connectivity with the information flow defined. (OS-JTF).

Authentication

- 1. To verify the identity of a user, device, or other entity in a computer system, often as a prerequisite to allowing access to resources in a system.
- 2. To verify the integrity of data that have been stored, transmitted, or otherwise exposed to possible unauthorized modification.

CBR

Circuit (voice and telephony) traffic over ATM.

Character-based interface

A non-bit mapped user interface in which the primary form of interaction between the user and system is through text.

Command and Control

The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. (JP1-02).

Command, Control, Communications, and Computer Systems

Integrated systems of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control across the range of military operations. (JP1-02).

Commercial Item

1. Any item customarily used by the general public for other than governmental purposes, that has been sold, leased, or licensed to the general public, or that has been offered for sale, lease or license to the general public.

- 2. Any item that evolved from an item described in 1) above through advances in technology or performance that is not yet available in the commercial market, but will be available in time to meet the delivery requirements of the solicitation.
- 3. Any item that, but for modifications of a type customarily available in the commercial market or minor modifications made to meet DoD requirements, would satisfy the criteria in 1) or 2) above.
- 4. Any combination of items meeting the requirements of 1, 2, or 3 above or 5 below that are of a type customarily combined and sold in combination to the general public.
- 5. Installation services, maintenance services, repair services, training services, and other services if such services are procured for support of any item referred to paragraphs 1, 2, 3. or 4 above, if the sources of such services:
 - offers such services to the general public and the DoD simultaneously and under similar terms and conditions and
 - offers to use the same work force for providing the DoD with such services as the source used for providing such services to the general public.
- 6. Services offered and sold competitively, in substantial quantities, in the commercial marketplace based on established catalog prices of specific tasks performed and under standard commercial terms and conditions.
- 7. Any item, combination of items or service referred to in 1 through 6 above notwithstanding the fact that the item or service is transferred between or among separate divisions, subsidiaries, or affiliates of a contractor.
- 8. A nondevelopmental item developed exclusively at private expense and sold in substantial quantities, on a competitive basis, to State and local governments.

(DRAFT 6/30/95 NDI HANDBOOK/ Federal Acquisition Streamlining Act of 1994 DoD 5000.37H.)

Commercial off-the-Shelf (COTS)

- 1. See the definition of Commercial Item found above. (OS-JTF 1995).
- 2. Refers to an item of hardware or software that has been produced by a contractor and is available for general purchase. Such items are at the unit level or higher. Such items must have been sold and delivered to government or commercial customers, must have passed customer's acceptance testing, be operating under customer's control, and within the user environment. Further, such items must have meaningful reliability, maintainability, and logistics historical data. (TAFIM, Version 3.0, Volumes 1 and 3)

Compliance

Compliance is enumerated in an implementation/migration plan. A system is compliant with the JTA if it meets, or is implementing, an approved plan to meet all applicable JTA mandates.

Conceptual Model of the Mission Space (CMMS)

One of the three components of the DoD Common Technical Framework (CTF). They are first abstractions of the real world and serve as a frame of reference for simulation development by capturing the basic information about important entities involved in any mission and their key actions and interactions. They are simulation-neutral views of those entities, actions, and interactions occurring in the real world. (DoD 5000.59-P, "Modeling and Simulation Master Plan," October 1995, authorized by DoD Directive 5000.59, January 4, 1994).

Configuration Management

A discipline applying technical and administrative direction and surveillance to: (1) identify and document the functional and physical characteristics of a configuration item, (2) control changes to those characteristics, and (3) record and report changes to processing and implementation status. (TAFIM, Version 3.0, Volumes 1 and 3).

Coordinated Universal Time (UTC)

Time scale, based on the second (SI), as defined and recommended by the CCIR and maintained by the Bureau International des Poids et Mésures (BIPM).

Data Dictionary

A specialized type of database containing metadata that is managed by a data dictionary system; are pository of information describing the characteristics of data used to design, monitor, document, protect, and control data in information systems and databases; an application of a data dictionary system. (DoD 8320.1-M-1, "Data Element Standardization Procedures," January 15, 1993, authorized by DoD Directive 8320.1, September 26, 1991).

Data Integrity

- 1. The state that exists when computerized data is the same as that in the source documents and has not been exposed to accidental or malicious alteration or destruction.
- 2. The property that data has not been exposed to accidental or malicious alteration or destruction.

Data Model

In a database, the user's logical view of the data in contrast to the physically stored data, or storage structure. A description of the organization of data in a manner that reflects the information structure of an enterprise. (DoD 8320.1-M-1, "Data Element Standardization Procedures," January 15, 1993, authorized by DoD Directive 8320.1, September 26, 1991).

Designated Approving Authority (DAA)

The official with the authority to formally assume responsibility for operating an AIS or network at an acceptable level of risk. (NSTISSI No. 4009).

Distributed Interactive Simulation (DIS)

Program to electronically link organizations operating in the four domains: advanced concepts and requirements; military operations; research, development, and acquisition; and training. (2) A synthetic environment within which humans may interact through simulation(s) at multiple sites networked using compliant architecture, modeling, protocols, standards, and data bases. (DoD 5000.59-P, "Modeling and Simulation Master Plan," October 1995, authorized by DoD Directive 5000.59, January 4, 1994).

Domain

A distinct functional area that can be supported by a family of systems with similar requirements and capabilities. An area of common operational and functional requirements.

Element

A Service Area, Interface, or Standard within the JTA document. The definitions below are abbreviated versions of those appearing elsewhere in the JTA Glossary.

- Service Area a set of system capabilities grouped by functional areas. Both the DoD Technical Reference Model and the JTA define set(s) of Service Areas common to every system.
- Interface a boundary between two functional areas in a Reference Model.
- Standard a document that establishes uniform engineering and technical requirements. The mandated standards in the JTA are grouped by their applicable Service Areas.

External Environment Interface (EEI)

The interface that supports information transfer between the application platform and the external environment. (NIST Special Publication 500-230; TAFIM, Version 3.0, Volumes 1 and 3).

Federate

A member of an HLA Federation. All applications participating in a Federation are called Federates. In reality, this may include Federate Managers, data collectors, live entity surrogates, simulations, or passive viewers. (HLA Glossary: http://www.dmso.mil/projects/hla/docslib/hlagloss.html).

Federation

A named set of interacting federates, a common federation object model, and supporting RTI, that are used as a whole to achieve some specific objective. (HLA Glossary:

http://www.dmso.mil/projects/hla/docslib/hlagloss.html).

Federation Object Model (FOM)

An identification of the essential classes of objects, object attributes, and object interactions that are supported by an HLA federation. In addition, optional classes of additional information may also be specified to achieve a more complete description of the federation structure and/or behavior. (HLA Glossary, http://www.dmso.mil/projects/hla/docslib/hlagloss.html).

Government off-the-Shelf (GOTS)

See COTS.

Graphical User Interface (GUI)

System design that allows the user to effect commands, enter into transaction sequences, and receive displayed information through graphical representations of objects (menus, screens, buttons, etc.).

High Level Architecture (HLA)

Major functional elements, interfaces, and design rules, pertaining as feasible to all DoD simulation applications, and providing a common framework within which specific system architectures can be defined. (HLA Glossary: http://www.dmso.mil/projects/hla/docslib/hlagloss.html).

Human-Computer Interface (HCI)

Hardware and software allowing information exchange between the user and the computer.

Hybrid Graphical User Interface

A GUI that is composed of tool kit components from more than one user interface style.

Imagery

Collectively, the representations of objects reproduced electronically or by optical means on film, electronic display devices, or other media. (JCS).

Information Technology (IT)

- A. The term "information technology", with respect to an executive agency means any equipment or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by the executive agency. For purposes of the preceding sentence, equipment is used by an executive agency if the equipment is used by the executive agency directly or is used by a contractor under a contract with the executive agency which (i) requires the use of such equipment, or (ii) requires the use, to a significant extent, of such equipment in the performance of a service or the furnishing of a product.
- B. The term "information technology" includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources.

C. Notwithstanding subparagraphs (A) and (B), the term "information technology" does not include any equipment that is acquired by a Federal contractor incidental to a Federal contract. (Information Technology Management Reform Act of 1996. See:

http://www.dtic.mil/c3i/cio/references/itmra.Annot.html).

Institute of Electrical and Electronics Engineers (IEEE)

An accredited standards body that has produced standards such as the network-oriented 802 protocols and POSIX. Members represent an international cross section of users, vendors, and engineering professionals. (TAFIM, Version 3.0, Volume 4).

Intelligence

- 1. The product resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information concerning foreign countries or areas.
- 2. Information and knowledge about an adversary obtained through observation, investigation, analysis, or understanding. (JP1-02).

Interactive Model

A model that requires human participation. Syn: human-in-the-loop. ("A Glossary of Modeling and Simulation Terms for Distributed Interactive Simulation (DIS)," August, 1995).

Interface

A shared boundary between two functional units. A functional unit is referred to as a entity when discussing the classification of items related to application portability.

International Electrotechnical Commission (IEC)

An international standards body similar to ISO, but limited by its charter to standards in the electrical and electrotechnical areas. In 1987, the ISO and IEC merged ISO Technical Committee 97 and IEC Technical Committees 47B and 83 to form ISO/IEC Joint Technical Committee (JTC) 1, which is the only internationally recognized committee dealing exclusively with information technology standards.

International Organization for Standardization (ISO)

The International Organization for Standardization (ISO) is a worldwide federation of national standards bodies from some 100 countries, one from each country.

ISO is a non-governmental organization, established to promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and services, and to developing cooperation in the spheres of intellectual, scientific, technological and economic activity. ISO's work results in international agreements which are published as International Standards.

International Telecommunications Union - Telecommunications Standardization Sector (ITU-T)

ITU-T, formerly called the Comité Consultatif International de Télégraphique et Téléphonique (CCITT), is part of the International Telecommunications Union, a United Nations treaty organization. Membership and participation in ITU-T is open to private companies; scientific and trade associations; and postal, telephone, and telegraph administrations. Scientific and industrial organizations can participate as observers. The U.S. representative to ITU-T is provided by the Department of State. Since ITU-T does not have the authority of a standards body nor the authority to prescribe implementation of the documents it produces, its documents are called recommendations rather than standards.

Internet Engineering Task Force (IETF)

The Internet Engineering Task Force (IETF) is a large open international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet. The actual technical work of the IETF is done in its working groups,

which are organized by topic into several areas (e.g., routing, transport, security, etc.). The IETF is a subdivision of the Internet Architecture Board (IAB) responsible for the development of protocols, their implementations and standardization.

Interoperability

- 1. The ability of two or more systems or components to exchange data and use information. (IEEE STD 610.12).
- 2. The ability of two or more systems to exchange information and to mutually use the information that has been exchanged. (Army Science Board).

Interworking

The exchange of meaningful information between computing elements (semantic integration), as opposed to interoperability, which provides syntactic integration among computing elements..

Joint Technical Committee (JTC) 1

JTC1 was formed in 1987 by merger of ISO Technical Committee 97 and IEC Technical Committees 47B and 83 to avoid development of possibly incompatible information technology standards by ISO and IEC. ANSI represents the U.S. government in ISO and JTC1.

Legacy Environments

Legacy environments could be called legacy architectures or infrastructures and as a minimum consist of a hardware platform and an operating system. Legacy environments are identified for phase-out, upgrade, or replacement. All data and applications software that operate in a legacy environment must be categorized for phase-out, upgrade, or replacement. (TAFIM 2.0, vol 1).

Legacy Standard

A JTA standard that is a candidate for phase-out, upgrade, or replacement. A legacy standard may be an obsolete standard without an upgrade path, or an older version of a currently mandated JTA standard. A legacy standard is generally associated with an existing or 'legacy system', although it may be necessary in a new or upgraded system when an interface to a legacy system is required. (JTADG).

Legacy Systems

Systems that are candidates for phase-out, upgrade, or replacement. Generally legacy systems are in this category because they do not comply with data standards or other standards. Legacy system workloads must be converted, transitioned, or phased out (eliminated). Such systems may or may not operate in a legacy environment. (TAFIM 2.0, vol 1).

Live, Virtual, and Constructive Simulation

The categorization of simulation into live, virtual, and constructive is problematic, because there is no clear division between these categories. The degree of human participation in the simulation is infinitely variable, as is the degree of equipment realism. This categorization of simulations also suffers by excluding a category for simulated people working real equipment (e.g., smart vehicles). (DoD 5000.59-P, "Modeling and Simulation Master Plan," October 1995, authorized by DoD Directive 5000.59, January 4, 1994).

- A. Live Simulation. A simulation involving real people operating real systems.
- B. <u>Virtual Simulation</u>. A simulation involving real people operating simulated systems. Virtual simulations inject human-in-the-loop (HITL) in a central role by exercising motor control skills (e.g., flying an airplane), decision skills (e.g., committing fire control resources to action), or communication skills (e.g., as members of a C4I team).
- C. <u>Constructive Model or Simulation</u>. Models and simulations that involve simulated people operating simulated systems. Real people stimulate (make inputs) to such simulations, but are not involved in determining the outcomes.

Market Acceptance

Means that an item has been accepted in the market as evidenced by annual sales, length of time available for sale, and after-sale support capability. (SD-2, April 1996).

Metadata

Information describing the characteristics of data; data or information about data; descriptive information about an organization's data, data activities, systems, and holdings. (DoD 8320.1-M-1, Data Standardization Procedures, August 1997).

Model

A physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, or process. ("A Glossary of Modeling and Simulation Terms for Distributed Interactive Simulation (DIS)", August, (DoD Directive 5000.59, "DoD Modeling and Simulation (M&S) Management," January 4, 1994); (DoD 5000.59-P, "Modeling and Simulation Master Plan," October 1995, authorized by DoD Directive 5000.59, January 4, 1994).

Modeling and Simulation (M&S)

The use of models, including emulators, prototypes, simulators, and stimulators, either statically or over time, to develop data as a basis for making managerial or technical decisions. The terms "modeling" and "simulation" are often used interchangeably. ("M&S Educational Training Tool (MSETT), Navy Air Weapons Center Training Systems Division Glossary," April 28, 1994).

Motif

User interface design approach based upon the "look and feel" presented in the OSF/Motif style guide. Motif is marketed by the Open Software Foundation.

Multimedia

The presentation of information on a computer using sound, graphics, animation, and text; using various input and output devices.

National Institute of Standards and Technology (NIST)

The division of the U.S. Department of Commerce that ensures standardization within Government agencies. NIST was formerly known as the National Bureau of Standards. NIST develops and maintains FIPS PUBS, the standards the Federal Government uses in its procurement efforts. Federal agencies, including DoD, must use these standards where applicable.

National Security System

- A. The term "national security system" means any telecommunications or information system operated by the United States Government, the function, operation, or use of which: (1) involves intelligence activities; (2) involves cryptologic activities related to national security; (3) involves command and control of military forces; (4) involves equipment that is an integral part of a weapon or weapons system; or (5) subject to subsection (b), is critical to the direct fulfillment of military or intelligence missions.
- B. LIMITATION.-Subsection (a)(5) does not include a system that is to be used for routine administrative and business applications (including payroll, finance, logistics, and personnel management applications). (Information Technology Management Reform Act of 1996. See: http://www.dtic.mil/c3i/cio/references/itmra.Annot.html).

Nondevelopmental Item (NDI)

1. Any previously developed item used exclusively for governmental purposes by a US Federal, State or Local government agency or a foreign government with which the US has a mutual defense cooperation agreement.

- 2. Any item described in subparagraph 1 above, that requires only minor modification in order to meet the requirements of the procuring agency.
- 3. Any item currently being produced that does not meet the requirement of paragraphs 1 or 2 above, solely because the item is not yet in use.

(DRAFT 6/30/95 NDI HANDBOOK/ Federal Acquisition Streamlining Act of 1994 DoD 5000.37H).

Object Model

A specification of the objects intrinsic to a given system, including a description of the object characteristics (attributes) and a description of the static and dynamic relationships that exist between objects. (HLA Glossary: http://hla.dmso.mil/hla/general/hlagloss.html).

Open System

A system that implements sufficient open specifications for interfaces, services, and supporting formats to enable properly engineered components to be utilized across a wide range of systems with minimal changes, to interoperate with other components on local and remote systems, and to interact with users in a style that facilitates portability. An open system is characterized by the following:

- Well defined, widely used, non-proprietary interfaces/protocols, and
- Use of standards which are developed/adopted by industrially recognized standards bodies, and
- Definition of all aspects of system interfaces to facilitate new or additional systems capabilities for a wide range of applications, and
- Explicit provision for expansion or upgrading through the incorporation of additional or higher performance elements with minimal impact on the system.

(IEEE POSIX 1003.0/D15 as modified by the Tri-Service Open Systems Architecture Working Group).

Open Systems Approach

An open systems approach is a business approach that emphasizes commercially supported practices, products, specifications and standards. The approach defines, documents, and maintains a system technical architecture that depicts the lowest level of system configuration control. This architecture clearly identifies all the performance characteristics of the system including those that will be accomplished with an implementation that references open standards and specifications. (OS-JTF).

Operational Architecture (OA)

An Operational Architecture is a description (often graphical) of the operational elements, assigned tasks, and information flows required to support the warfighter. It defines the type of information, the frequency of the exchange, and what tasks are supported by these information exchanges. (JTA 1.0).

Portability

The ease with which a system, component, body of data, or user can be transferred from one hardware or software environment to another. (TAFIM, Version 3.0, Volumes 1 and 3).

Practice

A recommended implementation or process that further clarifies the implementation of a standard or a profile of a standard. (VISP (Video Imagery Standards Profile)).

Profile of a Standard

An extension to a existing, approved standard which further defines the implementation of that standard in order to ensure interoperability. A profile is generally more restrictive than the base standard it was extracted from. (VISP).

Protocol Data Unit (PDU)

DIS terminology for a unit of data that is passed on a network between simulation applications. (DoD 5000.59-P, "Modeling and Simulation Master Plan," October 1995, authorized by DoD Directive 5000.59, January 4, 1994).

Real Time, Real-time

Real-time is a mode of operation. Real-time systems require events, data, and information to be available in time for the system to perform its required course of action. Real-time operation is characterized by scheduled event, data, and information meeting their acceptable arrival times. (OS-JTF).

Absence of delay, except for the time required for transmission. (DoD HCI Style Guide).

Real-Time Control System

Systems capable of responding to external events with negligible delays. (DoD HCI Style Guide).

Real-time Systems

Systems which provide a deterministic response to asynchronous inputs. (OS-JTF).

Reconnaissance

A mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy, or to secure data concerning the meteorological, hydrographic, or geographic characteristics of a particular area. (JP1-02).

Reference Model

A reference model is a generally accepted abstract representation that allows users to focus on establishing definitions, building common understandings and identifying issues for resolution. For Warfare and Warfare Support System (WWSS) acquisitions, a reference model is necessary to establish a context for understanding how the disparate technologies and standards required to implement WWSS relate to each other. Reference models provide a mechanism for identifying key issues associated with portability, scalability, and interoperability. Most importantly, reference models will aid in the evaluation and analysis of domain specific architectures. (TRI-SERVICE Open Systems Architecture Working Group).

Runtime Infrastructure (RTI)

The general purpose distributed operating system software which provides the common interface services during the runtime of an HLA federation. (HLA Glossary: http://hla.dmso.mil/hla/general/hlagloss.html).

Scalability, Scaleability

- 1. The capability to adapt hardware or software to accommodate changing work loads. (OS-JTF).
- 2. The ability to use the same application software on many different classes of hardware/software platforms from personal computers to super computers (extends the portability concept). The ability to grow to accommodate increased work loads. (TAFIM, Version 3.0, Volumes 1 and 3).

Secondary Imagery Dissemination (SID)

The process for the post-collection electronic transmission or receipt of C3I exploited non-original imagery and imagery-products in other than real or near-real time.

Security

- 1. The combination of confidentiality, integrity, and availability.
- 2. The quality or state of being protected from uncontrolled losses or effects. Note: Absolute security may in practice be impossible to reach; thus the security "quality" could be relative. Within state models of security systems, security is a specific "state" that is to be preserved under various operations.

Service Area

A set of capabilities grouped into categories by function. The JTA defines a set of services common to DoD information systems.

Simulation Object Model (SOM)

A specification of the intrinsic capabilities that an individual simulation offers to federations. The standard format in which SOMs are expressed provides a means for federation developers to quickly determine the suitability of simulation systems to assume specific roles within a federation. (HLA Glossary: http://hla.dmso.mil/hla/general/hlagloss.html).

Specification

A document prepared to support acquisition that describes the essential technical requirements for purchased material and the criteria for determining whether those requirements are met. (DoD 4120.3-M).

Standard

A document that establishes uniform engineering and technical requirements for processes, procedures, practices, and methods. Standards may also establish requirements for selection, application, and design criteria of material. (DoD 4120.3-M).

Standards Based Architecture

An architecture based on an acceptable set of standards governing the arrangement, interaction, and interdependence of the parts or elements that together may be used to form a weapons systems, and whose purpose is to ensure that a conformant system satisfies a specified set of requirements. (OS-JTF).

Standards Profile

A set of one or more base standards, and, where applicable, the identification of those classes, subsets, options, and parameters of those base standards, necessary for accomplishing a particular function. (TAFIM, Version 3.0, Volumes 1 and 3).

Standard Simulator Database Interchange Format (SIF)

A DoD data exchange standard (MIL-STD-1821) adopted as an input/output vehicle for sharing externally created simulator databases among the operational system training and mission rehearsal communities.

Surveillance

The systematic observation of aerospace, surface or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means. (JP1-02).

Synthetic Environment Data Representation and Interchange Specification (SEDRIS)

The specification encompasses a robust data model, data dictionary, and interchange format supported by read and write application programmer's interfaces (APIs), data viewers, a data model browser, and analytical verification and validation data model compliance tools.

Synthetic Environments (SE)

Interneted simulations that represent activities at a high level of realism from simulations of theaters of war to factories and manufacturing processes. These environments may be created within a single computer or a vast distributed network connected by local and wide area networks and augmented by super-realistic special effects and accurate behavioral models. They allow visualization of and immersion into the environment being simulated. (DoD 5000.59-P, "Modeling and Simulation Master Plan," October 1995, authorized by DoD Directive 5000.59, January 4, 1994); (CJCSI 8510.01, Chairman of the Joint Chiefs of Staff Instruction 8510.01, "Joint Modeling and Simulation Management," February 17, 1995).

System

- 1. People, machines and methods organized to accomplish a set of specific functions. (FIPS 11-3).
- 2. An integrated composite of people, products, and processes that provides a capability or satisfies a stated need or objective. (DoD 5000.2).

Systems Architecture (SA)

A description, including graphics, of the systems and interconnections providing for or supporting a warfighting function. The SA defines the physical connection, location, and identification of the key nodes, circuits, networks, warfighting platforms, etc., and allocates system and component performance parameters. It is constructed to satisfy Operational Architecture requirements in the standards defined in the Technical Architecture. The SA shows how multiple systems within a domain or an operational scenario link and interoperate, and may describe the internal construction or operations of particular systems in the SA.

Technical Architecture (TA)

The minimal set of rules governing the arrangement, interaction, and interdependence of the parts or elements whose purpose is to ensure that a conformant system satisfies a specified set of requirements. The technical architecture identifies the services, interfaces, standards, and their relationships. It provides the technical guidelines for implementation of systems upon which engineering specifications are based, common building blocks are built, and product lines are developed.

Technical Reference Model (TRM)

A conceptual framework that provides the following:

- A. Consistent set of service and interface categories and relationships used to address interoperability and open system issues.
- B. Conceptual entities that establish a common vocabulary to better describe, compare, and contrast systems and components.
- C. A basis (an aid) for the identification, comparison and selection of existing and emerging standards and their relationships.

The framework is not an architecture, is not a set of and does not contain standards.

Video

Electro-Optical imaging sensors and systems which generate sequential or continuous streaming imagery at specified rates. Video standards are developed by recognized bodies such as ISO, ITU, SMPTE, EBU, etc. (VISP).

Weapon Systems

A combination of one or more weapons with all related equipment, materials, services, personnel and means of delivery and deployment (if applicable) required for self sufficiency. (JCS Pub 1-02) See also National Security Systems.